## CONTENTS

Dedication	vii
Synthesis and structure of $Ni_{5.33}Ta_{0.67}B_2O_{10}$ and $Ni_{5.33}Nb_{0.67}B_2O_{10}$ K. Bluhm and H. Müller-Buschbaum	1
Nonstoichiometry in the perovskite-type oxides: An evolution from the classical Schottky-Wagner model to the recent high $T_{\rm c}$ superconductors P. Hagenmuller, M. Pouchard and J.C. Grenier	7
Synthesis of transition metal phosphides from their oxides using the chemical transport (CVT) method  J. Martin and R. Gruehn	19
A new cesium-aluminate: Cs <sub>6</sub> [Al <sub>2</sub> O <sub>6</sub> ] R. Hoppe and HP. Müller	23
Reactions and reactivities of compounds in hydraulic cements H.F.W. Taylor	31
Preparations, physical properties and reactivities of the lithium potassium salts of tartaric acid (anhydrous and hydrated) N.A. Baranov, V.B. Okhotnikov, L.I. Rynskaya, A.R. Semenov, A.K. Galwey, and G.M. Laverty	37
Relaxation of point deffects during interdiffusion of oxides in solid solution G. Kutsche and H. Schmalzried	43
Thermogravimetric studies of the reactions between dolomite and sulfur dioxide HG. Wiedemann, A. Boller and G. Bayer	53
Cyclovoltammetrische- und Röntgenbeugungsuntersuchungen zur anodischen Abscheidung höherer Silberoxide P. Fischer and M. Jansen	61
About the mechanism of the solid-way synthesis of barium metatitanate. Industrial consequences	60
J.C. Niepce and G. Thomas  Kinetics and mechanisms of the formation of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> G. Flor, M. Scavini, U. Anselmi-Tamburini and G. Spinolo	69 77
Crystal structure and properties of a new magnesium heteropoly-tungstate, $Mg_7(MgW_{12}O_{42})(OH)_4(H_2O)_8$ , and the isostructural compounds of manganese, iron, cobalt and nickel	85
J.R. Günter, H.W. Schmalle and E. Dubler  Synthesis, structures of AlPO <sub>4</sub> -C and AlPO <sub>4</sub> -D, and their topotactic transformation	
E.B. Keller, W.M. Meier and R.M. Kirchner  Thermodynamic studies in the system SmH <sub>2</sub> -SmH <sub>3</sub>	93
L. Wang, K. Conder and E. Kaldis	103

## CONTENTS

Dedication	vii
Synthesis and structure of $Ni_{5.33}Ta_{0.67}B_2O_{10}$ and $Ni_{5.33}Nb_{0.67}B_2O_{10}$ K. Bluhm and H. Müller-Buschbaum	1
Nonstoichiometry in the perovskite-type oxides: An evolution from the classical Schottky-Wagner model to the recent high $T_{\rm c}$ superconductors P. Hagenmuller, M. Pouchard and J.C. Grenier	7
Synthesis of transition metal phosphides from their oxides using the chemical transport (CVT) method  J. Martin and R. Gruehn	19
A new cesium-aluminate: Cs <sub>6</sub> [Al <sub>2</sub> O <sub>6</sub> ] R. Hoppe and HP. Müller	23
Reactions and reactivities of compounds in hydraulic cements H.F.W. Taylor	31
Preparations, physical properties and reactivities of the lithium potassium salts of tartaric acid (anhydrous and hydrated) N.A. Baranov, V.B. Okhotnikov, L.I. Rynskaya, A.R. Semenov, A.K. Galwey, and G.M. Laverty	37
Relaxation of point deffects during interdiffusion of oxides in solid solution G. Kutsche and H. Schmalzried	43
Thermogravimetric studies of the reactions between dolomite and sulfur dioxide HG. Wiedemann, A. Boller and G. Bayer	53
Cyclovoltammetrische- und Röntgenbeugungsuntersuchungen zur anodischen Abscheidung höherer Silberoxide P. Fischer and M. Jansen	61
About the mechanism of the solid-way synthesis of barium metatitanate. Industrial consequences	60
J.C. Niepce and G. Thomas  Kinetics and mechanisms of the formation of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> G. Flor, M. Scavini, U. Anselmi-Tamburini and G. Spinolo	69 77
Crystal structure and properties of a new magnesium heteropoly-tungstate, $Mg_7(MgW_{12}O_{42})(OH)_4(H_2O)_8$ , and the isostructural compounds of manganese, iron, cobalt and nickel	85
J.R. Günter, H.W. Schmalle and E. Dubler  Synthesis, structures of AlPO <sub>4</sub> -C and AlPO <sub>4</sub> -D, and their topotactic transformation	
E.B. Keller, W.M. Meier and R.M. Kirchner  Thermodynamic studies in the system SmH <sub>2</sub> -SmH <sub>3</sub>	93
L. Wang, K. Conder and E. Kaldis	103

Contents			
Contents			

Contents	ix
Use of potassium salts in the crystal growth of RBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> superconductors (R=Y or lanthanides) P. Murugaraj, J. Maier and A. Rabenau	113
The surface reactivity of Ti-Cu and Ti-Al alloys and the ion chemistry of their oxide overlayers D.L. Cocke, T.R. Hess, T. Mebrahtu, D.E. Mencer, Jr. and D.G. Naugle	119
Preparation, crystal structure and <sup>7</sup> Li NMR of Li <sub>6+2x</sub> [ $B_{10}S_{18}$ ] $S_x$ ( $x\approx 2$ ) P. Zum Hebel, B. Krebs, M. Grüne and W. Müller-Warmuth	133
Topotaxy, nucleation and growth  M. Figlarz, B. Gérand, A. Delahaye-Vidal, B. Dumont, F. Harb, A. Coucou and F. Fievet	143
Structure and thermochemical reactivity of CaRuO <sub>3</sub> and SrRuO <sub>3</sub> W. Bensch, H.W. Schmalle and A. Reller	171
Topochemistry of solid-state transformations of coordination compounds T.P. Shakhtshneider and V.V. Boldyrev	179
On the mechanism of the oxidation of graphite by molecular oxygen R. Schlögl, G. Loose and M. Wesemann	183
Thermogravimetric/mass-spectrometric studies and crystal data of copper(I) thiolate complexes E. Dubler and M. Baumgartner	193
Chemical and structural transformations in the system $M_0/M_0O_x$ in reducing and oxidizing atmospheres M. Maciejewski, A. Baiker and A. Reller	203
Author index	217
Subject index	221
Compound index	223